Appl. No.: 09/975,556
Amdt. Dated: 10/25/2005
Off. Act. Dated: 07/26/2005

Amendments to the Specification:

Please replace the paragraph beginning at page 2, line 2, with the following amended paragraph:

The most popular routing protocols used in today's internets are based on the exchange of vectors of distance, such as RIP and EIGRP; or topology maps, such as OSPF. It should be noted that RIP and a number of similar routing protocols which are based on the distributed Bellman-Ford algorithm (DBF) for shortest-path computation, suffer from the bouncing effect and counting-to-infinity problems, which limit their applicability to small networks using hop count as the measure of distance. While OSPF and algorithms based on topology-broadcast are hindered by excessive communication overhead, which forces the network administrators to partition the network into distinct areas which are interconnected by a backbone. As a result the use of OSPF leads to a complex solution, in terms of the required router configuration. The routing protocol EIGRP utilizes a loop-free routing algorithm called DUAL (Diffusing Update Algorithm), which is based on internodal coordination that can span multiple hops.

Please replace the paragraph beginning at page 2, line 19, with the following amended paragraph:

A couple of routing algorithms have been proposed that operate using partial topology information to eliminate the main limitations of topology-broadcast algorithms. Furthermore, several distributed shortest-path algorithms have been proposed that use the distance and second-to-last hop to destinations as the routing information exchanged among nodes. These algorithms are often called path-finding algorithms or

source-tracing algorithms. All of these algorithms eliminate DBF's counting to infinity problem, and some of them are more efficient than any of the routing algorithms based on link-state information proposed to date. Furthermore, LPA (the Loop-free Path-finding Algorithm) is maintained loop-free at every instant.

Please replace the paragraph beginning at page 3, line 5, with the following amended paragraph:

With the exception of DASM (Diffusing Algorithm for Shortest Multipath), all of the above routing algorithms focus on the provision of a single path to each destination. A drawback of DASM, however, is that it uses multi-hop synchronization, which limits its scalability. Recently a routing protocol referred to as MPDA (Multiple-path Partial-topology Dissemination Algorithm) has been proposed which is a method based on link-states that provides multiple loop-free path routing utilizing one-hop synchronization.